



**Transport for the West Midlands**

**West Midlands Cycle Design Guidance**

**Cycling and the Midland Metro**

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## Version Control and Approval

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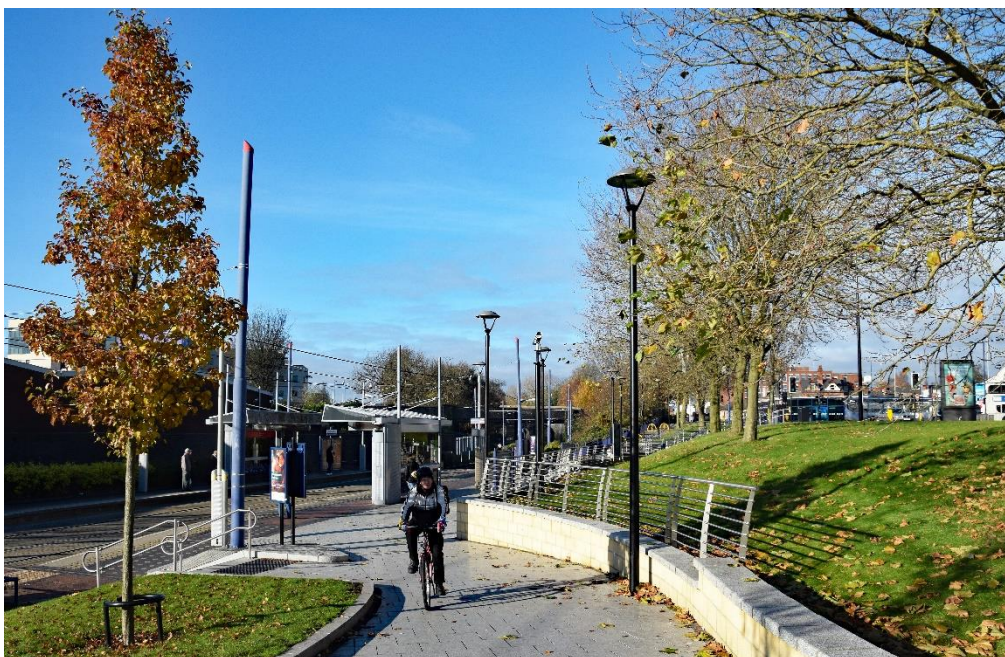
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## I Cycling and Midland Metro

### I.1 Why provide for cycling

- 1.1.1 Tram corridors are often attractive as potential cycle routes, offering direct links that serve several communities along their length, and built to accommodate a known demand for travel. There is potential for bike and ride interchange for longer trips. Cycling can increase the catchment of Metro stops because a 10-minute cycling isochrone covers approximately four times the area of the equivalent walking isochrone. Because Metro stops are often directly accessible from quieter residential streets they can attract people that are unwilling or unable to cycle on busier roads.
- 1.1.2 When introducing a new tram route, permeability of existing pedestrian and cycle routes should be preserved where possible. Tram corridors can potentially 'sever' links between adjacent quiet streets when it proves necessary to restrict and formalise crossing points. Good quality infrastructure at the intended crossing points and routes leading to them can help instil the desired behaviour and avoid conflicts with the tram system.



*In West Bromwich a cycle track has been provided alongside the Metro line with access to stops (Sandwell Council)*

### I.2 How to provide for cycling

- 1.2.1 Installing a Metro line requires long term planning and major works, with opportunities therefore to add cycle facilities for marginal additional cost. There is general guidance from the Office of Rail Regulation which includes some advice on catering for pedestrians

and cyclists. What type of facilities can be achieved will depend on local circumstance and are typically:

- Fully separate greenway cycle track alongside a dedicated tram line corridor (e.g. parts of West Bromwich).
- Off-carriageway cycle track alongside on-carriageway tram lines.
- Dedicated cycle lane within the carriageway but outside the Dynamic Kinematic Envelope (DKE) of the tram.
- Fully shared all-purpose carriageway.
- Safe crossing facilities where cycle routes cross a tram line.
- Secure and sheltered long-stay cycle parking stands at stops.

1.2.2 Incidents involving pedestrians and cyclists being struck by a tramcar happen very rarely. The more common hazards are slips, trips and falls associated with crossing the line. Cyclists are at risk in two ways:

- Bicycle wheels may drop into the groove of the rail and cause a fall (the wheel rarely gets fully 'stuck' but the groove causes the rider to lose their balance);
- Tyres slip on the metal surface of the rail, especially in wet conditions.

### **1.3 Crossing the Line**

The general arrangement should be that on-street crossings between the cycle route and tram tracks are at 90 degrees to the line (or as close as possible, and not less than 60 degrees). This includes arrangements for turning in and out of any side streets along the line. There is a risk at places where the cycle track/carriageway and the tram tracks merge/diverge as this is where it may be most difficult for cyclists to cross the line at right angles, especially if other traffic is present.



*Cycle track guides cyclists to cross perpendicular to lines where road and tramline diverge, Nottingham (Adrian Lord)*



*Cycle track crossing, Manchester city centre (Adrian Lord)*

- 1.3.1 Signalled pedestrian/cycle crossings can be used on tram lines as set out in TSRGD 2016. Where crossing points are not signalled (usually where there are low flows of people crossing and good visibility), a sign can be placed along the tram line to remind drivers to give an audible warning.
- 1.3.2 Where a cycle track joins or crosses the alignment of the tram line, the cycle-track arm of the junction may be treated in the same way that an all-purpose carriageway junction



would be treated (either signalised or unsignalised). The stop or give-way line must be at least 500mm from the edge of the DKE and a supplementary 'Tram' plate may be used in conjunction with the stop or give way sign. At more complex signalised junctions where the cycle route might be partially on and off-carriageway, elephant's footprint markings and/or coloured surfacing can be used to indicate the intended route.

- 1.3.3 The 'Velostrail' type rail groove filling products may have a role to play in some circumstances such as level crossings where the tram line is off-highway. These are only for a standard 'railway line' profile and not for the flange groove used for street running tram lines. Other infill products designed for use along the length of the line in a street prevent the required regular visual inspections for rail wear and cracking, and are not therefore practicable within a UK operating environment.

## **I.4 Cycling along the tram corridor**

- 1.4.1 Streets where cyclists share the same direction of travel as the trams should offer a separate cycle track or sufficient carriageway width between the track and the nearside kerb. The ORR guidance suggests a minimum of 1.0m mandatory cycle lane between the kerb and the DKE of the tram, but this is inadequate for comfortable cycling and does not offer safe clearance for cycles with more than two wheels. The ORR guidance is very clear that the 1.0m minimum clear strip does not provide space for a tram to pass cyclists, and is just meant to provide a clear area to enable cyclists on a standard two-wheel bike to pass along a narrow street in the absence of trams without having to cross the tracks. Designers should normally aim for 1.5m cycle lane width as in other circumstances so that a tram can pass with a comfortable clearance between the cyclist and the vehicle. The cycle lane must be mandatory with parking restrictions and not wide enough to permit unlawful parking by vehicles. Parking/waiting by vehicles partially on the adjacent footway may be deterred by bollards along the kerb edge if necessary. The outer edge of the mandatory cycle lane marking should be at least 0.2m from the DKE.
- 1.4.2 Roadside parking, delivery bays and bus stops should be arranged in laybys so that cyclists do not need to cross the tramline when passing. Kerb-face drainage can help cyclists to avoid having to bump over gulley grates where width is restricted.
- 1.4.3 If the road is not wide enough for a cycle lane but there are long sections of road where it is reasonable to assume that a tram would need to overtake a cyclist during normal operations (for example long uphill sections) there should be some kerbside refuge provision for the cyclist to be able to pull into the side at regular intervals.
- 1.4.4 Where suitable conditions for cycling cannot be met, an alternative cycle route may be indicated along adjacent streets.

## **I.5 Tram Stops**

- 1.5.1 Tram stops on the nearside of the carriageway do not allow for any clearance for a separate cycle track and therefore a 'bypass' arrangement of a cycle track to the rear of the stop is the preferred treatment (see bus stops).

## **I.6 Signing**

- 1.6.1 The standard blue 'Tram Only' signs can be used to mark the streets where other vehicles (including cycles) are prohibited (see TSRGD 2016). A supplementary plate describing the alternative route may be added e.g. 'Cycle access to station follow signs via XXX Street'.
- 1.6.2 Where a hazard associated with tram rails is identified, TSRGD 2016 permits the use of the general 'Hazard' (exclamation mark) sign. A supplementary 'Tram tracks' plate to alert users to the presence of tram rails can be used as a non-prescribed sign with appropriate DfT site approval.